北京市电力需求侧管理城市综合试点工作的开展情况

The progress of the urban integrated pilot project of Beijing Demand Side Management

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工作背景/Background

2012年，国家发展改革委、财政部批准北京市在2013-2015年开展电力需求侧管理城市综合试点工作。

In 2012, Beijing Municipality was authorized by the National Development and Reform Commission (NDRC) and the Ministry of Finance (MOF) to launch the Demand Side Management Pilot City Program from 2013 to 2015.

最终成果/Achievements

　　三年来，在国家发展改革委、财政部的大力支持和指导下，在市领导及全市各方的共同努力下，截至2015年底，累计实现节约和转移电力负荷159万千瓦，全面完成国家下达的节约和转移电力负荷80万千瓦的目标任务。

　　With strong support and guidance from NDRC and MOF, and with joint efforts of city leaders and all parties involved over a three-year period, as of the end of 2015, Beijing Municipality had in total saved and shifted 1,590 MW of power load, successfully reaching the target assigned by the state to save and shift 800 MW of power load.

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最终成果/Achievements

　　形成了政府为主导,电网企业、电能服务公司、社会力量广泛参与，市场机制有效发挥的电力需求侧管理工作新格局，推动了全社会节约用电、有序用电，促进了资源节约型、环境友好型社会建设。

　　A new DSM work pattern has been formed, which is led by the government, participated by power grid enterprises, power service companies and social forces, and allows full play to market mechanism, promoting power conservation and orderly use of electricity across the whole society, propelling the construction of a resource-saving and environmental-friendly society.
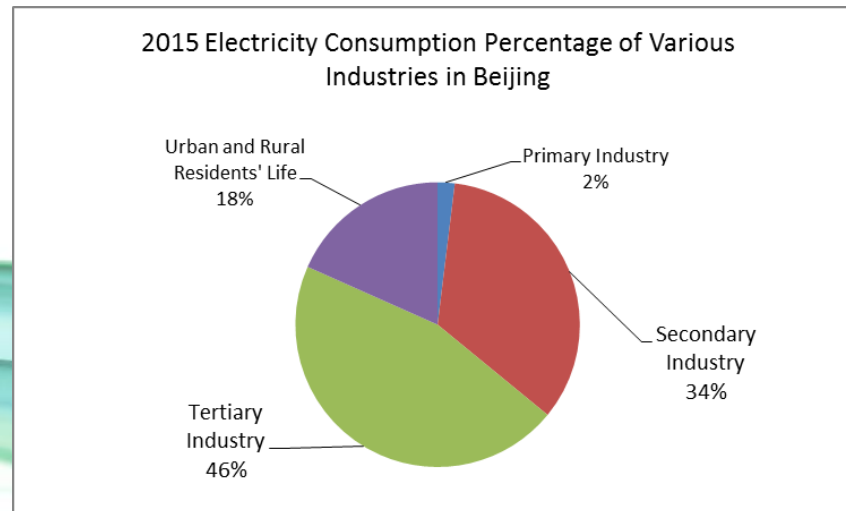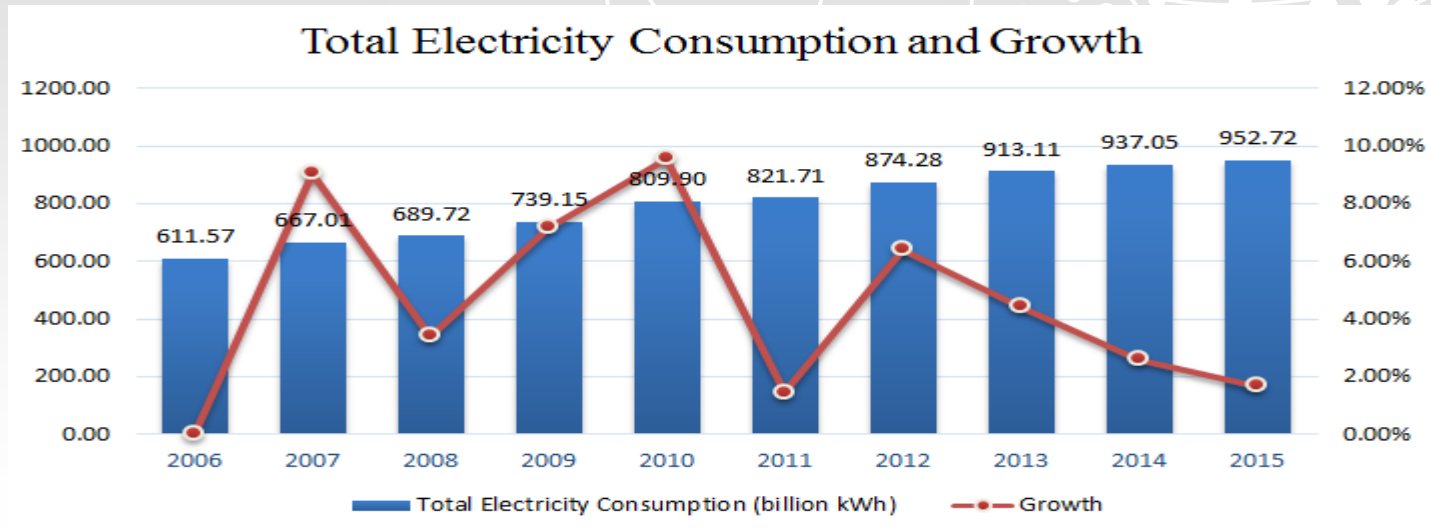
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北京市的基本情况/
Basic information of Beijing Municipality

　　2015年北京市全社会用电量952.7亿千瓦时，第三产业用电占到全市用电量的45.7%，第三产业增加值占全市地区生产总值的79.8%，全市用电量和经济发展以第三产业为主的结构特点较为突出。

　　In 2015, the total electricity consumption of Beijing was 95.27 billion kWh with 45.7% from the tertiary electricity consumption. The added value of tertiary industry occupied 79.8% of Beijing's GDP. It is evident that the tertiary industry plays a dominant role in the total electricity consumption and economic development of Beijing.

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Total Electricity Consumption and Growth

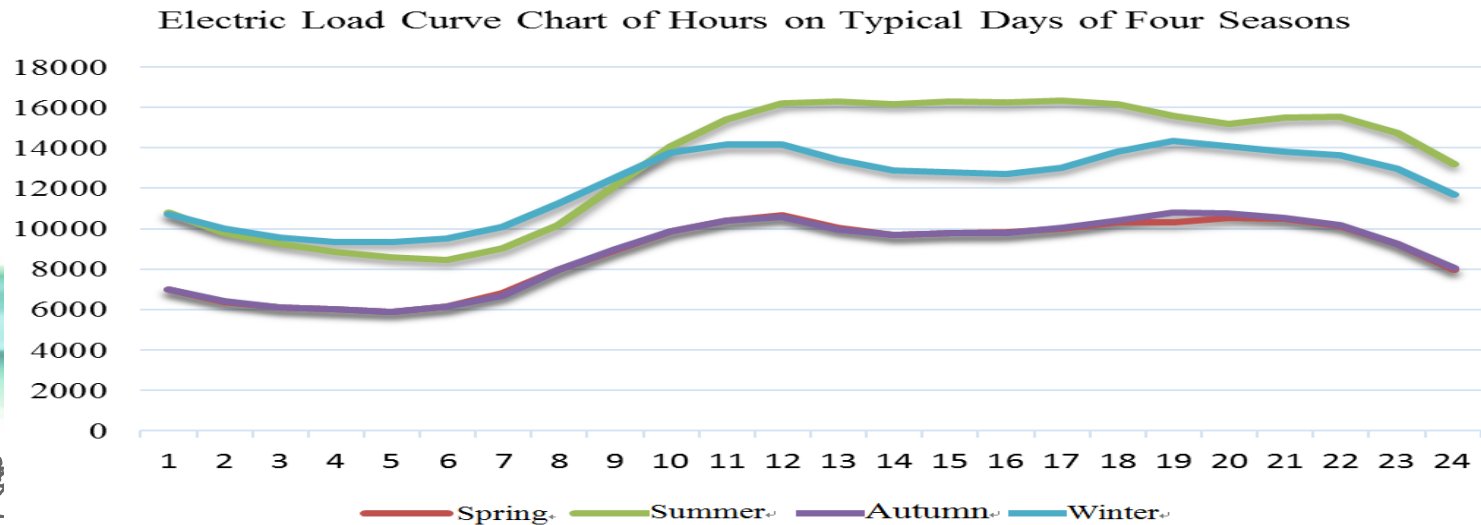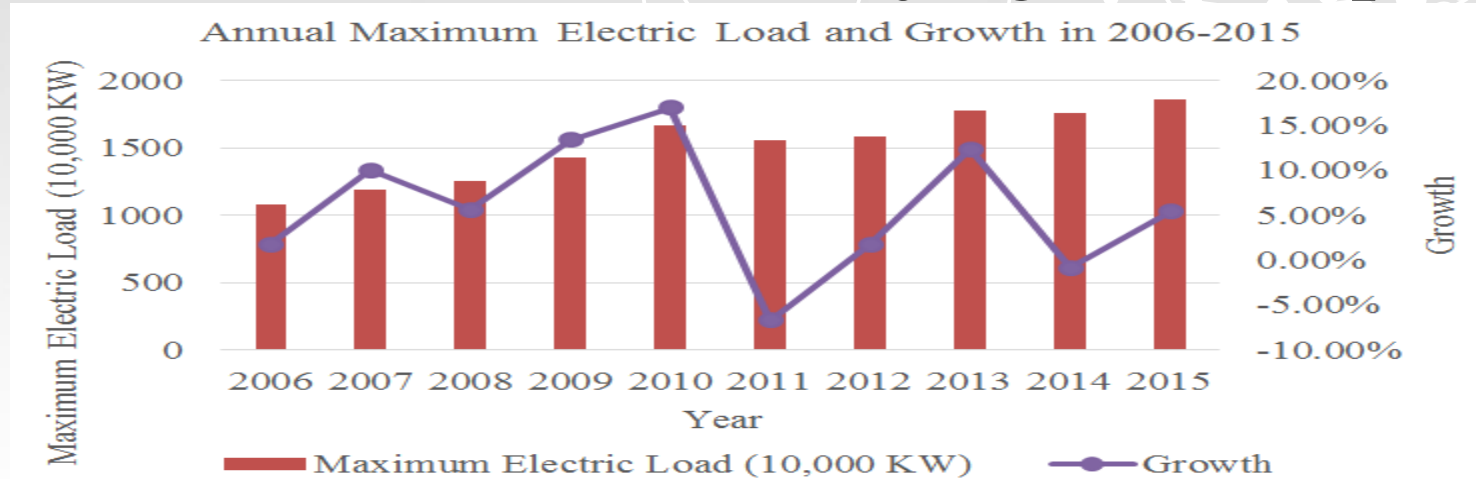2015 Electricity Consumption Percentage of Various Industries in Beijing

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　　2015年夏季，全市最大电力负荷突破历史极值，达1856.6万千瓦，同比增长5.4%，最大日负荷峰谷差率高于50%；冬季最大电力负荷伴随着电采暖设备的不断增加，也一直持续在高位运行。

　　In the summer of 2015, the maximum power load reached a record high of 18,566 MW, a 5.4% year-on-year increase, and the biggest daily-load peak-valley ratio was over 50%; the maximum power load in winter hovered at a high level with a rise in the use of electronic heating devices.

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Annual Maximum Electric Load and Growth in 2006-2015

Electric Load Curve Chart of Hours on Typical Days of Four Seasons

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全市最大电力负荷的持续增长、日负荷峰谷差率较大以及服务型企业点散面广等特点都决定了北京市应长期开展电力需求侧管理工作，保障全市电力安全稳定运行。

Owing to a constant rise in Beijing's maximum power load, Beijing's relatively big daily-load peak-valley ratio as well as dispersed distribution of service enterprises, Beijing Municipality should launch the long-term DSM work so as to ensure steady power operation for the whole city.

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主要做法/ Main practices

（一）扎实推进节电移峰项目。

　　建立了政府引导、各市场主体主动参与的项目推进工作模式，鼓励服务机构与用户在市场化条件下自主协商确立合作关系。项目实施完成后共节约和转移电力负荷142万千瓦。

(I)Make solid progress in energy saving and peak load shifting projects.

　　Our city has built a work pattern led by the government, actively participated by market main bodies to push the program forward, and encouraged service institutions and users to establish partnership through independent consultation in the context of market economy. The program was certified by the third party and reviewed and accepted by experts after completion, saving and shifting 1,420 MW of power load in total.

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（二）创新实施需求响应项目。

　　建立"北京市电力需求响应调控资源库"，含有36家负荷集成商和149个电力用户。通过与负荷集成商签订协议、发布事件、分配负荷、响应反馈、实施与监测、核证与评审认定六个步骤实施需求响应。建立了以电力运行和空气污染为触发点的需求响应模式。

(II) Promote innovation in implementing demand response projects.

　　Our city has established "a repository to regulate and control demand response (DR) in Beijing". There were all together 36 load aggregators and 149 power users passing the review in our city. The DR implementation requires six steps, including the signing of agreements with load aggregators, event release, load distribution, feedback on response, implementation & monitoring as well as certification & review. Our city has also built a DR mode that is triggered by power operation and air pollution,

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主要做法/ Main practices

（三）充分提升电力监测能力。

　　建成了北京市电力需求侧管理综合服务平台（www.bjdsm.gov.cn），平台已经具备了电力需求侧业务管理及技术支撑服务等功能，初步满足了需求侧管理基本需求。

(III) Fully lift power monitoring capacity.

　　Our city has entrusted professional institutions to establish Beijing DSM Platform (www.bjdsm.gov.cn), and the platform has possessed such functions as power demand side business management and technical support service, preliminarily satisfying basic demand of DSM.

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（四）用价格杠杆推进试点工作。

我市夏季尖峰与低谷电价之比达到4.12，进一步促进了蓄冷项目的实施，为削减夏季尖峰电力负荷提供了有力支撑。

(IV) Promote pilot work by using price lever.

The ratio of peak electricity price to valley electricity price in summer has reached 4.12, further promoting the implementation of cool storage project, and providing strong support for the cut of peak power load in Summer.

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主要做法/ Main practices

（五）夯实基础能力建设。

　　为加快制定北京市电力需求侧管理技术标准规范，我市组织编制地方标准和《北京市"十三五"时期电力需求侧管理发展规划》，开展投融资模式、PPP模式等研究，深挖电力需求侧管理项目潜力。

(V) Strengthen basic capacity building.

In order to speed up the formulation of technical standards for Beijing DSM, our city has worked out local standards and *the Development Plan for Beijing's DSM in the 13th Five-year Plan Period*. We carried out studies on investment and financing mode and PPP mode, and tapped into the potentials for DSM project.

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主要做法/ Main practices

（六）拓宽宣传培训路径。

组织22期电力需求侧管理项目专项培训，组织开展"合理使用清洁能源"系列宣传活动，编制完成《2015年北京市电力需求侧管理技术（产品）和典型案例推荐目录》，利用多媒体广泛传播电力需求侧管理相关信息和动态。

(VI) Broaden channels for publicity and training.

We have successively organized 22 DSM training courses, organized a series of promotion campaigns for "Rational Use of Clean Energy", finished the preparation of *the Recommendation Catalogue of Technologies (Products) and Typical Cases for 2015 Beijing DSM* and widely spread relevant information and developments of DSM via multi-media.

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（一）发展蓄冷、蓄热。

计划出台《关于北京市促进电力需求侧管理蓄能系统应用的实施意见》，继续对全市可实现永久性转移高峰电力负荷的蓄能系统项目予以政府资金支持。

The first is to develop cool storage and thermal storage.

We plan to release *the Opinions on Promotion of Application of DSM Energy Storage System by Beijing*, continuing to give financial support to energy-storage system projects that can achieve permanent shift of peak load for the whole city.

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（二）扩建需求响应资源库。

　　完善电力需求侧管理和需求侧响应机制，加强电力需求侧资源开发利用，提高负荷调控能力，削减电网峰谷差，减轻电网运行压力。到2020年建成60万千瓦需求响应资源库。

The second is to expand DR repository.

We will perfect DSM and demand side response mechanism, reinforce development and utilization of power demand side resources, raise the ability to regulate and control load, narrow power grid peak-valley difference, ease the pressure on power grid operation. We plan to build a 600MW DR repository by 2020.

对未来工作的启示/
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（三）加大政策宣传。

　　充分利用渠道广泛宣传推广节约用电、错峰用电、安全用电等电力需求侧管理核心理念，进一步巩固和扩大试点成果。

The third is to increase policy publicity.

　　We shall give wide publicity to core ideas in DSM such as power conservation, off-peak power use and safe electricity utilization by full exploration of channels to further consolidate and expand pilot outcomes.

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汇报完毕！
Thank you!